

4.15.2.4 IMPACTS FROM ALTERNATIVE 1—RECONDUCTORING O'BANION SUBSTATION TO TRACY SUBSTATION

Alternative 1 would involve fewer new structures than either the Proposed Action or Alternative 3. It would have more new structures than Alternative 2. Alternative 1 is entirely reconductoring, which would have less environmental impact than new construction on new ROW. Alternative 1 would also not impact any additional acreage, as it would be constructed entirely on existing ROW using existing access roads.

Using EPMs, Alternative 1 would not substantially degrade water quality, contaminate a public water supply, degrade or deplete groundwater resources, interfere with groundwater recharge, or cause any substantial flooding, erosion, or silting. Because it is entirely a reductor project, with minimal surface disturbance, Alternative 1 would have the least impact to water resources. However, no alternative would cause significant impacts to water resources. The comparison of alternatives assesses various levels of minor impacts.

4.15.2.5 IMPACTS FROM ALTERNATIVE 2—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION AND REALIGNMENTS

Alternative 2 would have exactly the same impact on water resources as the Proposed Action north of Elverta Substation. It would temporarily disturb 515 acres and disturb 66 acres for the long term. Alternative 2 would require fewer new structures than any alternatives and the same number of new access roads as the Proposed Action. Using EPMs, Alternative 2 would not substantially degrade water quality, contaminate a public water supply, degrade or deplete groundwater resources, interfere with groundwater recharge or cause any substantial flooding, erosion, or siltation.

4.15.2.6 IMPACTS FROM ALTERNATIVE 3—NEW TRANSMISSION ELK GROVE SUBSTATION TO TRACY SUBSTATION

Although the impacts of Alternative 3 would be confined between Elk Grove Substation and Tracy Substation, it would be all new construction on new ROW. Therefore, this alternative affects more acreage and requires more miles of access roads than any other alternative. This alternative also has the highest potential impacts to water resources. Even so, no significant impacts have been identified. Using EPMs, Alternative 3 would not substantially degrade water quality, contaminate a public water supply, degrade or deplete groundwater resources, interfere with groundwater recharge, or cause any substantial flooding, erosion, or siltation.

4.15.2.7 IMPACTS FROM THE NO ACTION ALTERNATIVE

Under the No Action Alternative, the existing 230-kV transmission system between O'Banion Substation and Tracy Substation would be operated and maintained as it is presently. Western would periodically access the line for routine maintenance or emergency repairs along the existing ROW and access roads. Depending upon the location and the season, temporary and insignificant impacts to water resources could occur because of vehicle access for maintenance purposes. Routine vegetation management activities could also cause temporary insignificant impacts by increasing the potential for erosion and sedimentation by removing ground cover and soil compaction. There would be very low risks of physical damage to irrigation improvements or fuel spills during fieldwork, but the damage would promptly be repaired or spills cleaned up under Western's policies and applicable environmental law and regulations.

4.16 WETLANDS

4.16.1 AFFECTED ENVIRONMENT

This section describes existing wetland conditions within the study area and how the Proposed Action and alternatives would affect wetlands. Wetlands provide natural flood protection and erosion control, recharge surface and ground waters, and maintain and improve local water quality. They are among the most productive and biologically diverse ecosystems in the world, providing dynamic, specialized habitat for a wide variety of common and rare plant and animal species. Environmental regulations have been developed to preserve and protect the unique habitat types and species they support. Table 4.16-1 and Figures 4-4, 4-5, and 4-6 present the wetlands within the study area.

Activities affecting wetlands are regulated under Section 404 of the CWA (33 U.S.C. §1344 *et seq.*) and EO 11990, Protection of Wetlands (42 FR 26961). Areas that meet wetland criteria, established by the USACE, are subject to the regulatory jurisdiction of USACE, pursuant to Section 404 of the CWA. DOE policy and procedures in 10 CFR 1022 ensure that DOE activities in wetlands comply with the EO requirements. This section contains information on avoiding activities impacting wetlands to comply with 10 CFR 1022.

4.16.1.1 RESOURCE STUDY AREA

The study area for wetland resources is the transmission line corridor along the existing ROW alignments. This includes ROW intersections with portions of the Sutter Bypass, the Feather, American, Cosumnes, Mokelumne, San Joaquin rivers, and smaller tributaries and flood-

plains. Wetland resources may be impacted by new construction (directly or indirectly), structure replacement, new and existing access roads, and temporary work sites (pulling, tensioning, or staging areas).

4.16.1.2 ISSUES OF ENVIRONMENTAL CONCERN

Activities may destroy or degrade the biological (species diversity and habitat) values of wetlands and interfere with or eliminate their beneficial functions in the ecosystem. These impacts may occur in study area wetlands because of excavation or filling, disturbance of hydrologic patterns, increased sedimentation from disturbed area runoff, and increased access and exploitation by humans and invasive plant species. Section 404 of the CWA requires a permit before any discharge of dredged or fill material into “Waters of the United States.” Waters of the United States include navigable waters, interstate waters, and all other waters where the use, degradation, or destruction could affect interstate or foreign commerce, tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Pursuant to Section 404 of the CWA, USACE regulates and issues permits for such activities. Nearly all surface waters and wetlands in California meet the criteria for Waters of the United States, including intermittent streams and seasonal lakes and wetlands. Activities that require a permit under Section 404 include placing fill or riprap, grading, mechanized land clearing, and dredging. Any activity that deposits dredge or fill material within the “Ordinary High Water Mark” of Waters of the United States usually

requires a permit, even if the area is dry when the activity takes place. The level of permitting required is determined by the scope of the action and level of disturbance to Waters of the United States.

4.16.1.3 CHARACTERIZATION

Wetland resources within the study area were determined from a review of the USFWS National Wetlands Inventory (USFWS 1990), the USDA Soil Conservation Service Local Identification Maps, USGS Topographic Maps of the study area, and various State of California wetland inventories. Western conducted field surveys of wetland resources June 25 through June 28, 2001, November 28, 2001, and February 21 through February 22, 2002. Table 4.16-1 lists field determinations based on vegetative and hydrologic features and classified according to Cowardin (Cowardin, *et al.*, 1979).

The field survey recorded all wetland and floodplain habitats observed along the existing, proposed, and alternative ROWs. The results are presented in this section. Figures 4-4 through 4-6 show where various segments intersect and could impact wetland habitats. Specific descriptions of those intersections follow.

Western did not determine Section 404 jurisdictional status of wetland resources encountered. When the final Proposed Action or alternative is selected, any impacted wetlands would be evaluated for jurisdictional status during consultation with the USACE. Additionally, the existence and extent of vernal pool habitat was not

Table 4.16-1. Wetland Types

Wetland Type	Description
Fresh Water Emergent	Characterized by erect, rooted, herbaceous, hydrophytic vegetation (for example, sedges, rushes, curly dock, cattail, bulrush, arrowhead); frequently flooded or saturated soils.
Riverine	Freshwater emergent wetland located within a watercourse channel that lacks trees and shrubs, persistent emergents, mosses, and lichens.
Lacustrine	Freshwater emergent wetlands associated with deepwater habitats (depressions or dammed river channels) that lack trees and shrubs, persistent emergents, mosses, and lichens.
Palustrine	Freshwater emergent wetlands dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens, separate from or associated with riverine or lacustrine wetlands.
Valley-Foothill Riparian	Mature riparian forest with canopy, subcanopy, shrub, and herbaceous layers, including plant species like cottonwood, ash, oak, alder, box elder, willow, blackberry, sedges, and rushes.
Vernal Pool	Seasonal, perched fresh water wetlands and swales of varying size found in a larger mosaic of grassland, oak woodland or riparian woodland, including plant species like wild oats, ripgut brome, annual ryegrass, and foxtail

Source: modified from Cowardin *et al.*, 1979

always definitive due to seasonal water conditions and access limitations.

Segments A and A₁ intersect lacustrine and palustrine freshwater emergent wetlands associated with Gilsizer Slough at MP 1.8 to 2.0. The wetland is approximately 0.2 mile long totaling 3.4 acres within the existing ROW. Wetland vegetation consists of willow, bullrush, cattail, sedge, arrowhead, and water hyacinth. Structure 137-1 is sited within the wetland, occupying 0.1 acre of the wetland area.

The study area crosses the Feather River levee setback zones and the Feather River at MP 11.0 to 11.6. The existing ROW intersects 0.4 mile (six acres) of intermittent valley-foothill riparian wetlands in the north and south levee setback zones and 0.2 mile (three acres) of Waters of the United States. The wetland vegetation is generally comprised of cottonwood, box-elder, willow, and blackberry. The setback zones show evidence of prior agricultural disturbance. Existing Structure 146-4 is within this area, but well away from the valley-foothill riparian vegetation. Between MP 13.3 and 13.5, the segment crosses 0.2 miles (three acres) of valley-foothill riparian wetland (cottonwood and willow), including a small riverine wetland associated with Coon Creek. The existing transmission structures span the wetland and riparian area.

Segment A intersects 0.1 mile (1.5 acres) of valley-foothill riparian wetland and 0.1 mile (1.5 acres) of Waters of the United States associated with the East Side Canal between MP 17.4 and 17.6. Wetland vegetation consists of cottonwood, willows, blackberry, and some cattails surrounding small areas of annual grassland. Two existing structures, 152-4 and 152-5 are within the grassland areas. Segment A₁ diverges from Segment A at MP 17.4 because of a 2.8-mile proposed realignment from MP 17.4 to 20.2. The realignment would move structures 152-4 and 152-5 away (east) from the wetland area resolving access issues for structure and line repair and maintenance. Segments A and A₁ rejoin in parallel at MP 18.2. A small, freshwater emergent wetland (0.1 mile, 1.5 acres) associated with Pleasant Grove Creek occurs between MP 19.7 and 19.8 near existing Structure 154-5. The area is a rice field with cattails intermixed.

Segment B crosses two unnamed drainages at MP 0.6 and 0.8 with 0.1 mile (1.5 acres) of freshwater emergent wetland within the ROW. No structures are noted within the wetland areas. There may be small amounts of vernal pool habitat within the ROW between MP 1.6 and 2.8 (Structures 159-3 through 160-3).

Segment C, running south from Elverta Substation, intersects a 0.5-mile length (7.6 acres) of potential vernal

pool habitat with some palustrine wetlands (cattails and bulrush) within the existing ROW between MP 0.3 and 0.8. Existing Structure 0-3 stands on a channel margin in this area. Another 0.5-mile (7.6 acre) length of potential vernal pool habitat is intersected between MP 4.3 and 4.8. Existing Structures 3-3 through 3-6 are in this area. Valley-foothill riparian habitat and small riverine, lacustrine, and palustrine wetlands possibly with vernal pools, run the length of the existing ROW in the American River floodplain from MP 8.0 to 11.2 (3.2 miles, 48.5 acres). Existing Structures 8-0 through 11-0 are within this area.

Segment D intersects approximately 0.6 mile (9.1 acres) of the valley-foothill riparian habitat within the existing ROW along the north side of the American River (MP 0.0 through 0.6). This habitat includes small areas of palustrine and lacustrine wetland. Structure 11-4 is just west, but outside of permanent wetland habitat associated with a small, nearby drainage. The ROW spans the American River between MP 2.3 and 2.5. The span crosses 0.1 mile (1.5 acres) of valley-foothill riparian area on the north and south banks and 0.2 mile (3 acres) of Waters of the United States. Small areas of vernal pool habitat may exist near MP 4.1 and 4.5 (structures 15-3 and 16-2). In addition, vernal pool habitat may exist between MP 10.0 and 11.9 (structures 21-2 through 22-5). Small areas (approximately 0.2 miles and 3 acres total) of freshwater emergent wetland (palustrine and lacustrine) and valley-foothill riparian areas occur where the ROW spans Morrison, Elder, Laguna, and Elk Grove creeks at MP 6.0, 7.8, 12.8, and 14.7, respectively. Potential vernal pool habitat (1.5 miles, 22.7 acres) occurs between MP 11.9 and 12.8 (structures 22-6 through 23-4) and around MP 14.7 in association with annual grasslands near Laguna Creek tributaries, and Elk Grove Creek.

Segments E and E₁ intersect Waters of the United States (ponds) at MP 1.7 and 2.2. About 0.3 mile (4.5 acres) of this habitat occurs within this portion of the ROW. Structures 27-9 through 28-3 are in this area. The ROW enters the Cosumnes River corridor at MP 2.9. The existing line from MP 3.0 to 4.7 crosses 0.6 mile (9.1 acres) of valley-foothill riparian habitat and palustrine wetlands and 0.1 mile (1.5 acres) of Waters of the United States where the Cosumnes River and its overflow are spanned. The structures in this reach are 29-3 through 30-2. Structures 30-4 and 3-04 span Badger Creek and its floodplain between MP 4.2 to 4.4, crossing approximately 0.1 mile (1.5 acres) of Waters of the United States and palustrine wetland. Waters of the United States and significant vernal pool habitat exist within the ROW from MP 5.0 through 6.3. The vernal pool complex (1.1 miles, 16.7 acres) is associated with the floodplain of Laguna Creek. Structures 32-1 and 32-2 span Laguna

Creek at MP 6.0. The ROW (existing Structures 33-4 and 34-1) crosses 0.2 mile (3 acres) total of valley-foothill riparian habitat and Waters of the United States at MP 7.6, 8.6, and 8.9. Vernal pool habitat is possible south of MP 7.6 and near MP 10.0. Valley-foothill riparian habitat (0.1 mile, 1.5 acres) associated with Waters of the United States (0.2 mile, 3 acres) in Dry Creek and the Mokelumne River are intersected where the ROW spans them at MP 11.2 (Structures 37-2 and 37-3) and MP 12.5 (Structures 38-4 and 39-1). Small lacustrine and palustrine wetlands (less than 0.1 miles, 1.5 acres) lay between Structures 44-2 and 44-3 at MP 18.2. The ROW crosses a 0.1 mile (2 acres) seasonal freshwater emergent wetland near Structure 45-1 at MP 18.9.

Segments E and E₁ intersect a large, significant complex of riverine, lacustrine, palustrine, and valley-foothill riparian wetlands called Pixley Slough associated with Bear Creek at MP 24.3 through 24.5. The 0.2-mile (3 acres) length beneath the ROW contains extensive cattail, bulrush, and deepwater wetland habitat. Structure 50-4 is sited within this area. The ROW intersects similar habitats at MP 26.6 to 26.7 (0.2 mile, 3 acres) where the existing line crosses Five Mile Slough. Structures 52-5 and 52-6 span this area. The ROW crosses the San Joaquin River at MP 28.9 to 29.2. The north and south banks support some marginal valley-foothill riparian habitat (0.2 mile, 3 acres) with 0.1 mile (1.5 acres) of Waters of the United States in the river channel. The ROW does not intersect any wetland habitat between the San Joaquin River crossing and Tracy Substation. However, it intersects Waters of the United States (approximately 0.2 mile and 3 acres for each crossing) at MP 37.3 (Middle River), MP 43.4 (Old River), and MP 44.7 (Delta Mendota Canal).

Segment F spans Curry Creek at MP 0.3. Some valley-foothill riparian habitat is present, but less than 0.1 mile (approximately 0.5 acre).

Segment G intersects and spans Curry Creek and several minor tributaries at MP 2.0, 2.9, 3.7, and 4.7. These areas total 0.2 mile and 3 acres.

Segment H ROW intersects two minor tributaries at MP 1.0, and 2.1. Some valley-foothill riparian habitat is associated with each. Total combined length and area of these habitats within the ROW is approximately 0.1 mile and 1 acre.

4.16.2 ENVIRONMENTAL CONSEQUENCES

The Proposed Action and alternatives can create impacts to wetlands during and as a result of construction of new access roads, structures, and temporary work sites within existing and new ROWs. Existing access roads and structures not replaced would continue to be maintained and used as under the No Action Alternative. These

existing features were originally sited to avoid, to the extent practicable, wetlands and Waters of the United States. Structures to be replaced during reconductoring would be constructed on or near the site of the previously existing structure. Construction for new ROW, access roads, structures, realigned ROW, and temporary work sites avoid, to the extent practicable, impacts to wetlands and Waters of the United States. Summaries of impacts to wetlands by line segment and by alternative are provided in Table 4.16-2 and Table 4.16-3.

4.16.2.1 STANDARDS OF SIGNIFICANCE

Significance can vary with the duration and source of specific impacts. Impacts may be temporary or long term and direct or indirect:

- Temporary impacts would last only through the construction period,
- Long-term impacts would last as long as the life of the facility,
- Direct impacts occur as a result of construction or operation of the Proposed Action or alternatives, or
- Indirect impacts occur as a result of the presence of the Proposed Action or alternatives usually associated with increased human accessibility to a previously inaccessible area.

The effects of the Proposed Action and alternatives would be considered significant if activities would result in

- Unmitigated temporary or long-term loss of wetland habitat (direct impact),
- Substantially increased access to wetland sites by humans (indirect impact),
- Increased erosion and sedimentation of soils or changes in topography that would significantly impact wetland habitat (direct impact), or
- Introduction of nonnative wetland plant species (indirect impact).

4.16.2.2 ENVIRONMENTAL PROTECTION MEASURES

EPMs for wetland resources from Table 3-4 include the following:

- Hazardous materials would not be drained onto the ground, into streams, or into drainage areas. All construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, would be removed to a disposal facility authorized to accept such materials. Irrigation system features, which are eligible for the NRHP, would be avoided during the siting of new transmission line structures and access roads, and most other irrigation system features would be

Table 4.16-2. Summary of Impacts by Segment on Wetlands and Waters of the United States

Segment	Wetland Miles	Wetland Acres	New Structures	Replaced Structures	Temp Acres Impact	Long-Term Acres Impact	Waters of the United States Miles	Waters of the United States Acres
A	0.9	13.4	0	1	0.23	0.1	0.3	4.5
A₁	0.9	13.4	5	0	1.15	0.5	0.3	4.5
B	0.1	1.5	1	0	0.23	0.1	0	0
C	4.2	62.7	0	6	1.38	0.6	0	0
D	2.4	36.3	0	3	0.69	0.3	0.2	3
E	3.1	47.3	0	4	0.92	0.4	0.7	10.5
E₁	3.1	47.3	16	0	3.68	1.6	0.7	10.5
F	0.1	0.5	0	0	0	0	0	0
G	0.2	3	1	0	0.23	0.1	0	0
H	0.1	0.1	0	0	0	0	0	0

Source: Original 2002

Table 4.16-3. Summary of Impacts by Alternative on Wetlands and Waters of the United States

Alternative	Wetland Miles Crossed	Wetland Acres Crossed	New Structures	Replaced Structures	Temporary Acres Impacted	Long-Term Acres Impacted	Waters of the United States Miles	Waters of the United States Acres
Proposed Action-New	1.4	18.5	7	0	1.61	0.7	0.3	4.5
Proposed Action-Reconductor	9.7	146.3	0	13	2.99	-	0.9	13.5
1	10.7	161.2	0	14	3.45	-	1.2	18
2	1.4	18.5	7	0	1.61	0.7	0.3	4.5
3	3.1	47.3	16	0	3.68	1.6	0.7	10.5

Source: Original 2002

avoided to the extent practicable in the siting of new structures and access roads.

- In construction areas (for example, material storage yards, structure sites, and spur roads from existing access roads) where ground disturbance is substantial or where recontouring is required, surface restoration would occur.
- Access roads would be built at right angles to the streams and washes to the extent practicable. Culverts would be installed where needed. All construction activities would be conducted to minimize disturbance to vegetation and drainage channels.
- Excavated material or other construction materials would not be stockpiled or deposited near or on stream banks, lake shorelines, or other watercourse perimeters where they can be washed away by high

water or storm runoff or can encroach, in any way, upon the watercourse.

- Nonbiodegradable debris would not be deposited in the ROW. Slash and other biodegradable debris would be left in place or disposed.
- All soil excavated for structure foundations would be backfilled and tamped around the foundations, and used to provide positive drainage around the structure foundations. Excavated soil excess to these needs would be removed from the site and disposed of appropriately.
- To the extent possible, new structures and access roads would be sited out of floodplains. Due to the abundance of floodplains and surface water resources in the study area, complete avoidance may not be possible, and Western will consult with USACE.

- Culverts would be installed where needed to avoid surface water impacts during construction of transmission line structures. All construction activities would be conducted in a manner to avoid impacts to water flow.
- All construction vehicle movement outside the ROW normally would be restricted to predesignated access, contractor-acquired access, or public roads.
- When feasible, all construction activities would be rerouted around wet areas while ensuring that the route does not cross sensitive resource areas.
- Dewatering work for structure foundations or earthwork operations adjacent to, or encroaching on, streams or watercourses would be conducted to prevent muddy water and eroded materials from entering the streams or watercourses with construction of interceptors.
- Runoff from the construction site would be controlled and meet the RWQCB storm water requirements.
- Construction within jurisdictional waters or wetlands may require 401 and 404 permits. These activities would be coordinated with the USACE and RWQCB, as needed.

4.16.2.3 IMPACTS FROM PROPOSED ACTION—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION; REALIGNMENTS; RECONDUCTORING ELVERTA SUBSTATION TO TRACY SUBSTATION

The Proposed Action intersects 11.1 miles (164.8 acres) of wetland habitat within the existing and new ROW. Of the 163 transmission line structures to be replaced within the existing ROW during reconductoring, approximately 13 are near wetland habitat. These structures would be constructed on the site of the previously existing structures, resulting in temporary, direct impacts up to 3 acres of associated wetlands. Long-term, direct impacts would be the same as the No Action Alternative. No new access roads would be constructed.

Of the 167 new transmission line structures to be constructed because of new or realigned ROW, approximately seven structures would be constructed near wetland habitats. New construction could temporarily impact up to 1.6 acres of wetlands resulting in long-term, direct impacts of 0.7 acre of wetlands.

On average, 0.2 mile of new access road would be required to access each new transmission line structure. If access to seven new structures requires crossing wetland habitat, the result could be up to 1.4 miles or 2.6

acres of long-term, direct impact. Limited, indirect impacts could occur over time due to increased access to previously inaccessible areas. The potential for additional access is small and controlled by EPMs. The resulting indirect impacts would be insignificant.

1.2 miles (18 acres) of Waters of the United States is presently or would be spanned by the existing or new transmission line components.

Temporary work sites (pulling and material storage) create temporary, direct impacts where constructed. The sites would be located in convenient, stable areas outside sensitive habitats to decrease costs, and increase ease of construction and operation. The Proposed Action includes 49 work sites temporarily impacting 19.6 acres. In accordance with EPMs and given the flexibility in siting these temporary work sites, direct impacts to wetland habitat would be unlikely. No long-term or indirect impacts are anticipated.

Transmission lines and temporary work sites normally span water bodies because of the increased difficulty of access and expense of construction in these areas, and because structures are typically sited on higher ground to increase span lengths and improve conductor ground clearance. Typical span widths without special structures are on the order of several hundred feet. Adjusting span width allows avoidance of most water bodies, including wetlands. The EPMs outlined above would be enforced during the construction and maintenance of the transmission line, and in addition to alternative siting, would further reduce direct and indirect impacts to wetlands. Revegetation of disturbed areas would occur rapidly given favorable regeneration conditions. Rapid revegetation would quickly reduce potential erosion, sedimentation, and invasion by nonnative plant species.

However, if preconstruction surveys identify unanticipated, unavoidable impacts to wetlands, Western would complete a survey and delineate the wetland areas. Western would consult with the USACE to determine the jurisdictional status of impacted habitats. In addition, a Section 401 Regional Water Quality Control Board Certification would be required before construction.

4.16.2.4 IMPACTS FROM ALTERNATIVE 1—RECONDUCTORING O'BANION SUBSTATION TO TRACY SUBSTATION

Alternative 1 intersects 10.7 miles (161.2 acres) of wetland habitat within the existing ROW. Of the 163 structures to be replaced during reconductoring, about 14 transmission line structures are near wetland habitat. The new structures would be constructed on the site of the previously existing structures, resulting in temporary, direct impacts to up to 3.5 acres of associated wetlands.

Long-term, direct impacts would be the same as the No Action Alternative. No new access roads would be constructed. The existing transmission line components span 1.2 miles (18 acres) of Waters of the United States.

Alternative 1 includes 47 work sites temporarily impacting 18.8 acres. Using the EPMs and given the flexibility in siting these temporary work sites, direct impacts to wetland habitat would be unlikely. No long-term or indirect significant impacts are anticipated.

4.16.2.5 IMPACTS FROM ALTERNATIVE 2—NEW TRANSMISSION O'BANION SUBSTATION TO ELVERTA SUBSTATION AND REALIGNMENTS

Alternative 2 is the same as the Proposed Action from O'Banion Substation to Elverta Substation, but does not include the reconductoring work south of Elverta. This alternative intersects 1.4 miles (18.5 acres) of wetland habitat within the existing and new ROW. Approximately seven new or realigned structures are near wetland habitats. New construction could temporarily impact up to 1.4 acres of wetlands resulting in long-term, direct impacts to 0.7 acre of wetlands. If access to seven new structures requires crossing wetland habitat, the resulting impact could be up to 1.4 miles or 2.6 acres of long-term impact. Limited, indirect impacts could occur over time due to increased access to previously inaccessible areas. The amount of access being added is small and additional access is controlled by EPMs. The resulting indirect impacts would be insignificant. New transmission line components would span 0.3 mile (4.5 acres) of Waters of the United States. Alternative 2 includes 14 work sites temporarily impacting 5.6 acres. Using the EPMs and given the flexibility in siting these temporary work sites, direct impacts to wetland habitat would be unlikely. No long-term or indirect significant impacts are anticipated.

4.16.2.6 IMPACTS FROM ALTERNATIVE 3—NEW TRANSMISSION ELK GROVE SUBSTATION TO TRACY SUBSTATION

Alternative 3 intersects 3.1 miles (47.3 acres) of wetland habitat within the new ROW. Approximately 16 new structures would be constructed near wetland habitats. New construction could temporarily impact up to 3.7 acres of wetlands, resulting in long-term, direct impacts of 1.6 acres of wetlands. If access to 16 new structures requires crossing wetland habitat, the resulting impact could be up to 3.2 miles or 5.9 acres of long-term impact. Limited, indirect impacts could occur over time due to increased access to previously inaccessible areas. Access would be controlled by EPMs. The resulting indirect impacts would be insignificant. The new transmission line components would span 0.7 mile (10.5 acres) of Waters of the United States. Alternative 3

includes 19 work sites that would temporarily impact 7.6 acres. Using EPMs and given the flexibility in siting these temporary work sites, direct impacts to wetland habitat would be unlikely. No long-term or indirect significant impacts are anticipated.

4.16.2.7 IMPACTS FROM THE NO ACTION ALTERNATIVE

Without the Proposed Action or alternatives, significant changes to existing facilities or alignment would not occur. No new impacts to wetlands would be expected. Normal operation, maintenance, repairs, and emergency management of the system would continue as in the past. There are recognized temporary and insignificant impacts associated with maintaining access and transmission service.

4.17 CUMULATIVE IMPACTS

Cumulative impacts result from the incremental effect of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions. Requirements for addressing cumulative impacts are to gather and analyze enough data to make a reasoned decision concerning these impacts. Western examined actions that have environmental impacts on the same resources affected by this proposal and similar projects. Western also reviewed other proposed projects including major linear projects that would potentially create impacts on the same resources.

For past actions, Western included existing transmission lines in the study area. Impacts from these past projects were considered for each resource area.

4.17.1 REASONABLY FORESEEABLE PROJECTS

Table 4.17-1 contains a list of reasonably foreseeable projects. The proposed projects include power generation that would require construction of new transmission lines and interconnection to the Sacramento area power grid.

Cumulative effects for floodplains, geology, soils, health and safety, land use, noise, and wetlands are expected to be negligible. A description of cumulative effects is provided below for air quality, biological resources, cultural resources, electric and magnetic fields, paleontological resources, socioeconomics and EJ, visual resources, and water resources.

4.17.2 AIR QUALITY

Within the Sacramento area, particulate emissions, VOCs, and NO_x from construction activities, rice field and agricultural burning, industrial operations (aggregate mining), and vehicle equipment may all impact air quality. Constructing new transmission lines or reconduc-